10/774866

Refine Search

Your wildcard search against 10000 terms has yielded the results below.
Your result set for the last L# is incomplete.
The probable cause is use of unlimited truncation. Revise your search strategy to use limited truncation.
Search Results -

Terms	Documents
L2 and (control$ with clutch$)	15

Database: US Pre-Grant Publication Full-Text Database; US Patents Full-Text Database; US OCR Full-Text Database; EPO Abstracts Database; JPO Abstracts Database; Derwent World Patents Index; IBM Technical Disclosure Bulletins

Search: L3

Refine Search | Recall Text | Clear | Interrupt

Search History

DATE: Tuesday, May 30, 2006 Printable Copy Create Case

Set Name side by side	Query	Hit Count	Set Name result set
DB=PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD; THES=ASSIGNEE; PLUR=YES; OP=OR			
L3	L2 and (control$ with clutch$)	15	L3
L2	L1 and (duty adj cycle)	15	L2
L1	"clutch slip" and torque and (elaps$ adj time)	96	L1

END OF SEARCH HISTORY

Hit List

First Hit Your wildcard search against 10000 terms has yielded the results below.

Your result set for the last L# is incomplete.

The probable cause is use of unlimited truncation. Revise your search strategy to use limited truncation.

Clear | Generate Collection | Print | Fwd Refs | Bkwd Refs | Generate OACS

Search Results - Record(s) 1 through 10 of 15 returned.

☐ 1. Document ID: US 20050177295 A1

Using default format because multiple data bases are involved.

L3: Entry 1 of 15 File: PGPB Aug 11, 2005

PGPUB-DOCUMENT-NUMBER: 20050177295
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20050177295 A1

TITLE: Method and apparatus for controlling a transfer case clutch to improve vehicle handling

PUBLICATION-DATE: August 11, 2005

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Rodrigues, Ashok	Farmington	MI	US
Allen, Timothy	Livonia	MI	US
Thomas, Steven	Bloomfield Hills	MI	US

US-CL-CURRENT: 701/67; 701/68

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw De

☐ 2. Document ID: US 20040111203 A1

L3: Entry 2 of 15 File: PGPB Jun 10, 2004

PGPUB-DOCUMENT-NUMBER: 20040111203
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20040111203 A1

TITLE: Torque-converter slip control system

PUBLICATION-DATE: June 10, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY

Higashimata, Akira	Kanagawa	JP
Segawa, Satoshi	Kanagawa	JP

477/176

US-CL-CURRENT: 701/51; 701/87, 701/90

477/34, 62

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw De

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☐ 3. Document ID: US 20040020700 A1

L3: Entry 3 of 15 File: PGPB Feb 5, 2004

PGPUB-DOCUMENT-NUMBER: 20040020700
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20040020700 A1

TITLE: On demand vehicle drive system

PUBLICATION-DATE: February 5, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Watson, Will	Southfield	MI	US
Miller, Alan L.	Ithaca	NY	US
Sundquist, Drew A.	Canton	MI	US
Simpson, Roger T.	Ithaca	NY	US
Ducklow, Diane K.	Farmington	MI	US
Beckerman, Joseph W.	Livonia	MI	US
Showalter, Dan J.	Plymouth	MI	US

US-CL-CURRENT: 180/247

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw De

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☐ 4. Document ID: US 20020052265 A1

L3: Entry 4 of 15 File: PGPB May 2, 2002

PGPUB-DOCUMENT-NUMBER: 20020052265
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020052265 A1

TITLE: Slip control system for torque converter

PUBLICATION-DATE: May 2, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Segawa, Satoshi	Kanagawa		JP
Adachi, Kazutaka	Yokohama		JP

US-CL-CURRENT: 477/62; 477/65

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWMC | Draw De

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☐ 5. Document ID: US 20010042652 A1

L3: Entry 5 of 15 File: PGPB Nov 22, 2001

PGPUB-DOCUMENT-NUMBER: 20010042652
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20010042652 A1

TITLE: On demand vehicle drive system

PUBLICATION-DATE: November 22, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Watson, Will	Southfield	MI	US
Miller, Alan L.	Ithaca	NY	US
Sundguist, Drew A.	Canton	MI	US
Simpson, Roger T.	Ithaca	NY	US
Ducklow, Diane K.	Farmington	MI	US
Beckerman, Joseph W.	Livonia	MI	US
Showalter, Dan J.	Plymouth	MI	US

US-CL-CURRENT: 180/249; 180/244

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWMC | Draw De

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☐ 6. Document ID: US 6928357 B2

L3: Entry 6 of 15 File: USPT Aug 9, 2005

US-PAT-NO: 6928357
DOCUMENT-IDENTIFIER: US 6928357 B2

TITLE: Torque-converter slip control system

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWMC | Draw De

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☐ 7. Document ID: US 6652415 B2

L3: Entry 7 of 15 File: USPT Nov 25, 2003

US-PAT-NO: 6652415
DOCUMENT-IDENTIFIER: US 6652415 B2

TITLE: Slip control system for torque converter

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw De

☐ 8. Document ID: US 5847589 A

L3: Entry 8 of 15 File: USPT Dec 8, 1998

US-PAT-NO: 5847589
DOCUMENT-IDENTIFIER: US 5847589 A

TITLE: Pulse signal generating device

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw De

☐ 9. Document ID: US 5693878 A

L3: Entry 9 of 15 File: USPT Dec 2, 1997

US-PAT-NO: 5693878
DOCUMENT-IDENTIFIER: US 5693878 A
** See image for Certificate of Correction **

TITLE: Torque converter clutch engagement test

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw De

☐ 10. Document ID: US 5407024 A

L3: Entry 10 of 15 File: USPT Apr 18, 1995

US-PAT-NO: 5407024
DOCUMENT-IDENTIFIER: US 5407024 A
** See image for Certificate of Correction **

TITLE: On demand vehicle drive system

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw De

Clear | Generate Collection | Print | Fwd Refs | Bkwd Refs | Generate OACS

Terms	Documents
L2 and (control$ with clutch$)	15

Display Format: - Change Format

L3: Entry 4 of 15 File: PGPB May 2, 2002

PGPUB-DOCUMENT-NUMBER: 20020052265
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020052265 A1

TITLE: Slip control system for torque converter

PUBLICATION-DATE: May 2, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Segawa, Satoshi	Kanagawa		JP
Adachi, Kazutaka	Yokohama		JP

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	COUNTRY	TYPE CODE
NISSAN MOTOR CO., LTD.,				03

APPL-NO: 09/983939 [PALM]
DATE FILED: October 26, 2001

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	DOC-ID	APPL-DATE
JP	2000-328474	2000JP-2000-328474	October 27, 2000

INT-CL-PUBLISHED: [07] F16 H 61/14

US-CL-PUBLISHED: 477/62; 477/65
US-CL-CURRENT: 477/62; 477/65

REPRESENTATIVE-FIGURES: 1

ABSTRACT:

A pre-compensator equipped slip control system for a lock-up torque converter employing a lock-up clutch, includes a slip-rotation control section that begins to calculate a compensated target slip rotation from a time when an actual slip rotation between input and output elements of the torque converter becomes less than a predetermined slip-rotation threshold value after shifting from a torque-converter action area to a slip-control area, so that the actual slip rotation is brought closer to the compensated target slip rotation. Also provided is a feedforward control section that determines a lock-up clutch engagement pressure by way of feedforward control during a period of time from a time when the torque converter is shifted from the torque-converter action area to the slip-control area to the time when the actual slip rotation becomes less than the predetermined slip-rotation threshold value.

Hit List

First Hit

Your wildcard search against 10000 terms has yielded the results below.

Your result set for the last L# is incomplete.

The probable cause is use of unlimited truncation. Revise your search strategy to use limited truncation.

Clear | Generate Collection | Print | Fwd Refs | Bkwd Refs | Generate OACS

Search Results - Record(s) 11 through 15 of 15 returned.

☐ 11. Document ID: US 5323320 A

Using default format because multiple data bases are involved.

L3: Entry 11 of 15 File: USPT Jun 21, 1994

US-PAT-NO: 5323320
DOCUMENT-IDENTIFIER: US 5323320 A

TITLE: Stability test for slip operation of torque converter clutch

DATE-ISSUED: June 21, 1994

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Hathaway; Richard R.	Plymouth	MI		
Neigebauer; James J.	Ypsilanti	MI		

US-CL-CURRENT: 701/67; 192/3.3, 192/3.58, 477/169

Full | Title | Citation | Front | Review | Classification | Date | Reference | References | Attachments | Claims | KWIC | Draw De

☐ 12. Document ID: US 5113343 A

L3: Entry 12 of 15 File: USPT May 12, 1992

US-PAT-NO: 5113343
DOCUMENT-IDENTIFIER: US 5113343 A

TITLE: Sequenced control of double transition powered downshifting in an automatic transmission

Full | Title | Citation | Front | Review | Classification | Date | Reference | References | Attachments | Claims | KWIC | Draw De

☐ 13. Document ID: US 5046174 A

L3: Entry 13 of 15 File: USPT Sep 3, 1991

US-PAT-NO: 5046174
DOCUMENT-IDENTIFIER: US 5046174 A

TITLE: Method of clutch-to-clutch closed throttle downshift in an automatic transmission

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw De

☐ 14. Document ID: US 4805750 A

L3: Entry 14 of 15 File: USPT Feb 21, 1989

US-PAT-NO: 4805750
DOCUMENT-IDENTIFIER: US 4805750 A

TITLE: Steady state slip detection/correction for a motor vehicle transmission

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw De

☐ 15. Document ID: US 4527678 A

L3: Entry 15 of 15 File: USPT Jul 9, 1985

US-PAT-NO: 4527678
DOCUMENT-IDENTIFIER: US 4527678 A

TITLE: Transmission clutch control system and method

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw De

Clear | Generate Collection | Print | Fwd Refs | Bkwd Refs | Generate OACS

Terms	Documents
L2 and (control$ with clutch$)	15

Display Format: - Change Format

Previous Page Next Page Go to Doc#

L3: Entry 6 of 15 File: USPT Aug 9, 2005

US-PAT-NO: 6928357
DOCUMENT-IDENTIFIER: US 6928357 B2

TITLE: Torque-converter slip control system

DATE-ISSUED: August 9, 2005

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Higashimata; Akira	Kanagawa			JP
Segawa; Satoshi	Kanagawa			JP

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
Nissan Motor Co., Ltd.	Yokohama			JP	03

APPL-NO: 10/700446 [PALM]
DATE FILED: November 5, 2003

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	APPL-DATE
JP	2002-383017	December 5, 2002

INT-CL-ISSUED: [07] G06 F 7/00

US-CL-ISSUED: 701/87; 701/90, 477/34
US-CL-CURRENT: 701/87; 477/34, 701/90

FIELD-OF-CLASSIFICATION-SEARCH: 701/84, 701/87, 701/90, 477/34
See application file for complete search history.

PRIOR-ART-DISCLOSED:

FOREIGN PATENT DOCUMENTS

FOREIGN-PAT-NO	PUBN-DATE	COUNTRY	CLASS
09265745	October 1997	JP	
2000-145948	May 2000	JP	

ART-UNIT: 3661

PRIMARY-EXAMINER: Beaulieu; Yonel

ATTY-AGENT-FIRM: Foley & Lardner LLP

ABSTRACT:

A slip control system of a lockup torque converter includes a pre-compensator that pre-compensates for a target slip-rotation speed to produce a target slip-rotation speed correction value. A feedback compensator is provided to feedback-control an engagement capacity of a lock-up clutch based on a deviation between the target slip-rotation speed correction value and an actual slip-rotation speed to bring the actual slip-rotation speed closer to the target slip-rotation speed. Also provided is a dead-time processing section that compensates for the target slip-rotation speed correction value to reflect a dead time of dynamic characteristics peculiar to the slip control system in the target slip-rotation speed correction value. The dead-time compensated output is fed to the feedback compensator. The dead time is variable in accordance with a predetermined dead time characteristic.

20 Claims, 22 Drawing figures

Previous Doc Next Doc Go to Doc#

L3: Entry 10 of 15 File: USPT Apr 18, 1995

US-PAT-NO: 5407024
DOCUMENT-IDENTIFIER: US 5407024 A
**** See image for Certificate of Correction ****

TITLE: On demand vehicle drive system

DATE-ISSUED: April 18, 1995

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Watson; Will	Southfield	MI		
Miller; Alan L.	Ithaca	NY		
Sundquist; Drew A.	Canton	MI		
Simpson; Roger T.	Ithaca	NY		
Ducklow; Diane K.	Farmington	MI		
Beckerman; Joseph W.	Livonia	MI		
Showalter; Dan J.	Plymouth	MI		

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
Borg-Warner Automotive, Inc.	Sterling Heights	MI			02

APPL-NO: 07/903696 [PALM]
DATE FILED: June 24, 1992

INT-CL-ISSUED: [06] B60 K 17/34

US-CL-ISSUED: 180/248; 180/197
US-CL-CURRENT: 180/248; 180/197

FIELD-OF-CLASSIFICATION-SEARCH: 180/248, 180/247, 180/197, 180/233, 364/424.1
See application file for complete search history.

PRIOR-ART-DISCLOSED:

U.S. PATENT DOCUMENTS

Search Selected Search ALL Clear

	PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
☐	4417641	November 1983	Kageyama	180/247
☐	4718303	January 1988	Fogelberg	74/710.5
	4840247	June 1989	Kashihara et al.	180/249

☐				
☐	4860612	August 1989	Dick et al.	74/665
☐	4866624	September 1989	Nishikawa et al.	364/426.03
☐	4874056	October 1989	Naito	180/233
☐	4937750	June 1990	Gilliam	364/424.1
☐	4989686	February 1991	Miller et al.	180/197
☐	4991678	February 1991	Furuya et al.	180/248 X
☐	5002147	March 1991	Tezuka et al.	180/197
☐	5060747	October 1991	Eto	180/197
☐	5090510	February 1992	Watanabe et al.	180/197
☐	5098352	March 1992	Montanaro et al.	475/86
☐	5119900	June 1992	Watanabe et al.	180/245
☐	5141072	August 1992	Shibahata	180/248 X
☐	5215160	June 1993	Williams et al.	180/248 X

FOREIGN PATENT DOCUMENTS

FOREIGN-PAT-NO	PUBN-DATE	COUNTRY	CLASS
903077485	February 1991	EP	
901191742	April 1991	EP	
903092187	April 1991	EP	
3741009A1	June 1988	DE	

OTHER PUBLICATIONS

"Nissan Electronic Torque Split 4WD System", pp. 1-20 Nissan Motor Co., Ltd.
"Nissan ETS: a New Electronic Torque Split System for Improving Vehicle Dynamics", Reference No. 891074, pp. 303-306 (In Japanese).
"Electronic Control Torque Split 4-Wheel Drive Transfer Case", Fuji Tekko Co., Ltd. (English and Japanese language versions).
SAE Technical Paper No. 850354, A Computer Controlled Transfer for Four-Wheel Drive Vehicles, 1985.

ART-UNIT: 316

PRIMARY-EXAMINER: Camby; Richard M.

ASSISTANT-EXAMINER: Mattix; Carla

ATTY-AGENT-FIRM: Willian Brinks Hofer Gilson & Lione Dziegielewski; Greg

ABSTRACT:

An on demand vehicle drive system monitors vehicle performance and operating conditions and controls torque delivery to the vehicle wheels. The system includes a plurality of speed and position sensors, a transfer case having primary and

secondary output shafts driving primary and secondary axles and a microcontroller. The sensors include a vehicle speed sensor, a pair of primary and secondary drive shaft speed sensors, and brake and driveline status sensors. The transfer case includes a modulating electromagnetic clutch controlled by the microcontroller which is incrementally engaged to transfer torque from the primary output shaft to the secondary output shaft. When the speed of either the front or the rear drive shafts overruns, i.e., exceeds, the speed of the other drive shaft by a predetermined value related to the vehicle speed, indicating that wheel slip is present, clutch current is incrementally increased to increase clutch engagement and torque transfer to the secondary axle. When wheel slip is reduced below the predetermined value the current to the clutch is incrementally reduced. The method of operating such a system is also described.

79 Claims, 25 Drawing figures

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